REMARKS

In response to the Restriction Requirement, applicants hereby elect claims 28-42 and 71-81 in Group I **with traverse**. As explained in a telephone interview with Examiner Ramirez on March 26, 2009 and as shown in the attached documents, all of the claims in this application were allowed a long time ago. However, based on Examiner Ramirez's comments during the telephone interview, the official file or at least the official records may not reflect the existence of such allowance. However, in view of the prior allowance of all claims in the application, restriction is now improper. Applicants therefore respectfully request favorable consideration and a Notice of Allowance.

Respectfully submitted,

DORSEY & WHITNEY LLP

Edward W. Bulchis
Registration No. 26,847

EWB:dms
Enclosures:
Exhibit 1
Exhibit 2

1420 Fifth Avenue, Suite 3400
Seattle, Washington 98101
Tele: (206) 903-8800
Fax: (206) 903-8820

29756/US

Exhibit 1

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/617,318	07/17/2000	David N Roundhill	500789.01	9061

27076 7590 08/07/2003

DORSEY & WHITNEY LLP
INTELLECTUAL PROPERTY DEPARTMENT
SUITE 3400
1420 FIFTH AVENUE
SEATTLE, WA 98101

EXAMINER	
JAWORSKI, FRANCIS J	
ART UNIT	PAPER NUMBER
3737	

DATE MAILED: 08/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

UNITED STATES DEPARTMENT OF COMMERCE
U.S. Patent and T. . emark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450

APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.

EXAMINER	
ART UNIT	PAPER
	17

DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner for Patents

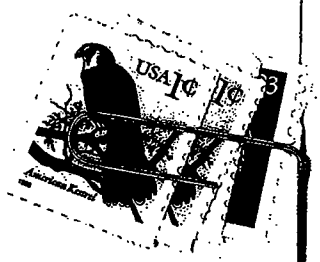
1...All claims are allowable. However, due to a potential interference, ex parte prosecution is SUSPENDED FOR A PERIOD OF THREE MONTHS from the date of this letter. Upon expiration of the period of suspension, applicant should make an inquiry as to the status of the application.

Francis J. Jaworski
Primary Examiner

Exhibit 2

500789.01 (29756/US)
EWB:pep

Date Stamp



Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

SENT: June 6, 2007

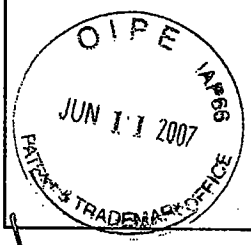
DUE: June 6, 2007

Kindly acknowledge receipt of the below-listed documents by placing your receiving stamp hereon and mailing:

Fee Transmittal Sheet (+ copy); Supplemental Amendment; Request for Withdrawal Interferences; in re: David N. Roundhill et al., USAN 09/617,318, filed July 17, 2000, for SYSTEM AND METHOD FOR THREE DIMENSIONAL HARMONIC ULTRASOUND IMAGING.

500789.01 (29756/US)
EWB:pep

Date Stamp



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Commissioner for Patents
P.O. Box 1450
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H:\IP\Clients\Philips Medical-ATL Ultrasound\500789.01\500789.01 pcd supp amd wdraw interferences.doc **DORSEY & WHITNEY LLP**

Effective on 12/08/04

FEE TRANSMITTAL SHEET (FY 2006)

Complete if Known	
Application No.	09/617,318
Filing Date	July 17, 2000
First Inventor	David N. Roundhill et al.
Group Art Unit	3737
Examiner Name	Francis J. Jaworski
Atty. Docket Number	500789.01 (29756/US)

☐ Applicant claims small entity status (see 37 C.F.R. 1.27)

METHOD OF PAYMENT (Check One)

☒ The Director is hereby authorized to charge any additional fee required under 37 C.F.R. §§ 1.16 and 1.17 and 1.136(a)(3) and credit any over payments to Deposit Account No. **50-1266;** Deposit Account Name: **DORSEY & WHITNEY LLP.**

☐ Check Enclosed.

Extra Claim Fees

Current Claims		Prior		Extra		Fee		Fee Paid
Total	66	- 116	=	0	x	$ 50	=	$ 0
Ind.	10	- 20	=	0	x	$ 200	=	$ 0
Multiple Dependent Claims					x	$	=	$
				Subtotal (Extra Claims)				$ 0

Petition Fee Under 37 CFR 1.17(f), (g), & (h)

Enclosed is a Petition filed under 37 CFR as indicated below:

☐ Petition Fee under 37 CFR 1.17(f) — **Fee $400**

§ 1.53(e)	to accord a filing date.
§ 1.57(a)	to accord a filing date.
§ 1.182	for decision on a question not provided for.
§ 1.183	to suspend the rules.
§ 1.378(e)	for reconsideration of decision on petition refusing delayed payment of maintenance fee in expired patent.
§ 1.174(b)	to accord a filing date to an application under §1.740 for extension of patent term.

☐ Petition Fee under 37 CFR 1.17(g) — **Fee $200**

§ 1.12	**for access to an assignment record.**
§ 1.14	**for access to an application.**
§ 1.47	**for filing by other than all inventors or person not the inventor.**
§ 1.59	**for expungement of information.**
§ 1.103(a)	**to suspend action in an application.**
§ 1.136(b)	**for review of a request for ext. of time when §1.136(a) not avail.**
§ 1.295	for review of refusal to publish a statutory invention registration.
§ 1.296	to withdraw a req. for pub. after notice of intent to publish issued.
§ 1.377	for review of decision refusing to accept a maintenance fee filed prior to expiration of a patent.
§ 1.550(c)	**for request for ext. of time in *ex parte* reexam. proceedings.**
§ 1.956	**for request for ext. of time in *ex parte* reexam. proceedings.**
§ 5.12	for expedited handling of foreign filing license.
§ 5.15	for changing the scope of a license.
§ 1.5.25	for retroactive license.

☐ Petition Fee under 37 CFR 1.17(h) — **Fee $130**

§ 1.19(g)	to request documents in a form other than provided in this part.
§ 1.84	for accepting color drawings or photographs.
§ 1.91	for entry of a model or exhibit.
§ 1.102(d)	to make an application special.
§ 1.138(c)	to expressly abandon an application to avoid publication.
§ 1.313	to withdraw an application from issue.
§ 1.314	to defer issuance of a patent.

FEE CALCULATION (Continued)

3. ADDITIONAL FEES

Large Entity Fee	Small Entity Fee	Fee Description	Fee paid
50	25	Surcharge - late provisional filing fee or cover sheet	$
130	65	Surcharge – Late nonprovisional filing fee or oath	$
180	180	Submission of IDS	$
40	40	Recording each patent assignment per property (times number of properties)	$
120	60	Extension for reply within first month	$
450	225	Extension for reply within second month	$
1,020	510	Extension for reply within third month	$
1,590	795	Extension for reply within fourth month	$
2,160	1,080	Extension for reply within fifth month	$
790	395	Submission After Final 1.129	$
500	250	Notice of Appeal	$
500	250	Filing a brief in support of an appeal	$
1,000	500	Request for oral hearing	$
130	65	Terminal Disclaimer Fee	$
800	400	Design Issue Fee	$
790	395	Request for Continued Examination (RCE)	$
130		Request for voluntary publication or republication	$
500	250	Petition to Revive – unavoidable	$
1,500	750	Petition to Revive – unintentional	$
200		Filing for patent term adjustment	$
400		Request for reinstatement of term reduced	$
1,120		Extension of term of patent	$
OTHER FEE (specify)			$
		Subtotal (Additional Fees)	$0
		Total Amount of Payment:	**$0**

Submitted by:

CUSTOMER NUMBER	DORSEY & WHITNEY LLP	1420 Fifth Avenue, Suite 3400 Seattle, WA 98101-4010 (206) 903-8800 *phone* / (206) 903-8820 *fax*
27,076		

Name: Edward W. Bulchis — Reg. No.: 26,847

Signature: Edward W. Bulchis — Date: June 6, 2007

:\IP\Clients\Philips Medical-ATL Ultrasound\500789.01\500789.01 fee tran supp amend 060607.doc

PATENT

I hereby certify that on the date specified below, this correspondence is being deposited with the United States Postal Service as first-class mail in an envelope addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

June 6, 2007
Date

Phoebe E. Pogson

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.	: 09/617,318	Confirmation No.	: 9061
Applicants	: David N. Roundhill, Michalakis Averkiou and Jeffry E. Powers		
Filed	: July 17, 2000	Attorney Docket No.:	500789.01 (29756/US)
Art Unit	: 3737	Customer No.	: 27, 076
Examiner	: Francis J. Jaworski		
Title	: SYSTEM AND METHOD FOR THREE DIMENSIONAL HARMONIC ULTRASOUND IMAGING		

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

SUPPLEMENTAL AMENDMENT

Sir:

Please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks begin on page 18 of this paper.

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application. Please cancel claims 108-157.

Listing of Claims:

Claims 1-27 (Canceled).

28. (Previously Presented) An ultrasonic imaging system for producing a three dimensional image of a tissue or fluid inside a body, comprising:

an ultrasound transducer;

an ultrasound transmitter coupled to the ultrasound transducer, the ultrasound transducer being operable to generate a signal having a fundamental frequency;

an ultrasound receiver coupled to the ultrasound transducer, the ultrasound receiver being operable to receive a signal from the ultrasound transducer corresponding to ultrasound reflections from the tissue or fluid at a plurality of depths in the body;

a filter coupled to the ultrasound receiver, the filter being operable to selectively pass signals received by the receiver having a frequency that is a harmonic of the fundamental frequency and to provide an output signal corresponding thereto; and

an image processor coupled to receive the output signal from the filter, the image processor being operable to generate a three dimensional image from the output signal of the filter.

29. (Original) The ultrasonic imaging system of claim 28 wherein the filter is further operable to pass signals at the fundamental frequency so that the output signal is a combination of signals received by the receiver having the fundamental frequency and signals received by the receiver having the harmonic frequency.

30. (Original) The ultrasonic imaging system of claim 29 wherein the filter further comprises:

a low frequency channel operable to pass components of the signals received by the receiver having the fundamental frequency;

a high frequency channel operable to pass components of the signals received by the receiver having the harmonic frequency; and

a combiner operable to combine the signals passed through the low frequency channel and the signals passed through the high frequency channel.

31. (Previously Presented) The ultrasonic imaging system of claim 30 wherein the low frequency channel is further operable to attenuate signals reflected from the tissue or fluid at shallower depths of the body to a greater extent than signals reflected from the tissue or fluid at greater depths of the body, and the high frequency channel is further operable to attenuate signals reflected from the tissue or fluid at greater depths of the body to a greater extent than signals reflected from the tissue or fluid at shallower depths of the body so that deeper portions of the three-dimensional image are produced predominantly from signals received by the receiver having the fundamental frequency and shallower portions of the three-dimensional image are produced predominantly from signals received by the receiver having the harmonic frequency.

32. (Original) The ultrasonic imaging system of claim 31 wherein the high frequency channel includes a depth-dependent time varying filter to attenuate signals passing through the channel as a function of depth of the body.

33. (Previously Presented) The ultrasonic imaging system of claim 28 wherein the ultrasonic imaging system is adapted to generate the three dimensional image is generated in the absence of an ultrasound contrast agent.

34. (Previously Presented) The ultrasound imaging system of claim 30 wherein the combiner comprises a switch operable to couple the low-frequency channel to the image processor responsive to a signal corresponding to ultrasound reflections from ultrasound reflectors in a first range of depths and operable to couple the high frequency channel to the

image processor responsive to a signal corresponding to ultrasound reflections from ultrasound reflectors in a second range of depths, the second range of depths being different from the first range of depths.

35. (Original) The ultrasound imaging system of claim 30 wherein the combiner comprises a summing device operable to generate a composite signal formed from both a fundamental frequency signal coupled through the low frequency channel and a harmonic frequency signal coupled through the high frequency channel.

36. (Previously Presented) The ultrasound imaging system of claim 28 further comprising a Doppler processor coupling the image processor to the filter, the Doppler processor being operable to generate a Doppler signal from the output signal of the filter, the Doppler signal being applied to the image processor so that the three dimensional image corresponds to ultrasound reflections from moving tissue or fluid .

37. (Previously Presented) The ultrasound imaging system of claim 36 wherein the Doppler signal is indicative of the velocity of the moving tissue or fluid .

38. (Previously Presented) The ultrasound imaging system of claim 36 wherein the Doppler signal is indicative of the intensity of reflections from the moving tissue or fluid.

39. (Original) The ultrasound imaging system of claim 28 wherein the filter is further operable to shift the frequency of the signals received by the receiver having the harmonic to a different frequency.

40. (Original) The ultrasound imaging system of claim 28 wherein the filter comprises a finite impulse response filter operable to filter and decimate the signals received by the receiver.

41. (Original) The ultrasound imaging system of claim 28 wherein the transmitter is operable to generate first and second successive pulses of signals at the fundamental frequency having different phases, and wherein the filter comprises a signal processor operable to combine a first signal received from the receiver resulting from the first successive pulse with a second signal received from the receiver resulting from the second successive pulse.

42. (Original) The ultrasound imaging system of claim 28 wherein the signal generated by the ultrasound transmitter has a range of frequency components, the range of frequency components including the fundamental frequency.

43. (Previously Presented) An ultrasonic imaging system for producing a three dimensional image of a tissue or fluid inside a body, comprising:

an ultrasonic transducer operable to transmit ultrasonic pulses into a body and receive echo signals responsive to the pulses, the ultrasonic pulses having a fundamental frequency component;

a beamformer coupled to receive the echo signals from the ultrasonic transducer and to generate output signals corresponding thereto;

a filter coupled to receive the output signals from the beamformer, the filter being operable to selectively pass harmonic frequency components of the beamformer output signals that are a harmonic of the fundamental frequency component; and

an image processor coupled to the filter to receive the harmonic frequency components of the beamformer output signals, the image processor being operable to generate a three dimensional image from the harmonic frequency components of the beamformer output signals.

44. (Original) The ultrasonic imaging system of claim 43 wherein the filter comprises a digital filter.

45. (Original) The ultrasonic imaging system of claim 43 wherein the filter is further operable to pass fundamental frequency components of the beamformer output signals so that the image is formed from fundamental and harmonic frequency components of the beamformer output signals.

46. (Original) The ultrasonic imaging system of claim 45 wherein the filter comprises:

a low frequency channel operable to pass the fundamental frequency components;

a high frequency channel operable to pass the harmonic frequency components; and

a combiner operable to combine the fundamental frequency components with the harmonic frequency components.

47. (Previously Presented) The ultrasonic imaging system of claim 46 wherein the low frequency channel is further operable to attenuate signals reflected from the tissue or fluid at shallower depths of the body to a greater extent than signals reflected from the tissue or fluid at greater depths of the body, and the high frequency channel is further operable to attenuate signals reflected from the tissue or fluid at greater depths of the body to a greater extent than signals reflected from the tissue or fluid at shallower depths of the body so that deeper portions of the three-dimensional image are produced predominantly from the fundamental frequency components and shallower portions of the 3-dimensional image are produced predominantly from the harmonic frequency components.

48. (Original) The ultrasonic imaging system of claim 46 wherein the high frequency channel each includes a depth-dependent time varying filter to attenuate signals passing through the channel as a function of the depth from which the echo signals are received.

49. (Previously Presented) The ultrasonic imaging system of claim 46 wherein the low frequency channel is operable to attenuate signals reflected from the tissue or fluid at a first range of depths to a greater extent than signals reflected from the tissue or fluid at

a second range of depths, and to attenuate signals reflected from the tissue or fluid at the second range of depths to a greater extent than signals reflected from the tissue or fluid at a third range of depths, and wherein the high frequency channel is operable to attenuate signals reflected from the tissue or fluid at the third range of depths to a greater extent than signals reflected from the tissue or fluid at the second range of depths, and to attenuate signals reflected from the tissue or fluid at the second range of depths to a greater extent than signals reflected from the tissue or fluid at the first range of depths, the third range of depths being deeper than the second range of depths, and the second range of depths being deeper than the first range of depths so that portions of the three-dimensional image in the third range of depths are produced predominantly from the fundamental frequency component, portions of the three-dimensional image in the first range of depths of the body are produced predominantly from the harmonic frequency component, and portions of the three-dimensional image in the second range of depths are produced substantially equally from the fundamental frequency component and the harmonic frequency component.

50. (Original) The ultrasonic imaging system of claim 46 wherein the combiner comprises a switch operable to alternatively couple either the low frequency channel or the high frequency channel to the image processor.

51. (Original) The ultrasonic imaging system of claim 46 wherein the combiner comprises a summing device operable to generate a composite signal formed from both the fundamental frequency component coupled through the low frequency channel and the harmonic frequency component coupled through the high frequency channel.

52. (Previously Presented) The ultrasonic imaging system of claim 43 further comprising a Doppler processor coupling the image processor to the filter, the Doppler processor being operable to generate a Doppler signal from the harmonic frequency component, the Doppler signal being applied to the image processor so that the three dimensional image corresponds to ultrasound reflections from moving tissue or fluid.

53. (Previously Presented) The ultrasonic imaging system of claim 52 wherein the Doppler signal is indicative of the velocity of the moving tissue or fluid.

54. (Previously Presented) The ultrasonic imaging system of claim 52 wherein the Doppler signal is indicative of the intensity of reflections from the moving tissue or fluid.

55. (Original) The ultrasonic imaging system of claim 43 wherein the filter is further operable to shift the frequency of the harmonic frequency component.

56. (Original) The ultrasonic imaging system of claim 43 wherein the filter comprises a finite impulse response filter operable to filter and decimate the beamformer output signals.

57. (Original) The ultrasonic imaging system of claim 43 wherein the ultrasonic pulses comprise first and second successive pulses of signals having the fundamental frequency component, the first and second pulses having different phases, and wherein the filter comprises a signal processor operable to combine a first output signal from the beamformer derived from an echo signal responsive to the first successive pulse with a second signal from the beamformer derived from an echo signal responsive to the second successive pulse.

58. (Original) The ultrasonic imaging system of claim 43 wherein each of the ultrasonic pulses transmitted into the body have a range of frequency components, the range of frequency components including the fundamental frequency component.

59-70. (Canceled)

71. (Previously Presented) A method of generating a three-dimensional image of a tissue or fluid inside a body, comprising:

transmitting an ultrasound signal into the body, the ultrasound signal having at least a fundamental frequency;

detecting echoes of the transmitted ultrasound signal at a harmonic frequency that is a multiple of the fundamental frequency; and

using the detected echoes to form the three-dimensional image of a tissue or fluid in the body.

72. (Previously Presented) the method of claim 71, further comprising, prior to transmitting the ultrasound signal, introducing a contrast agent into the body so that at least some of the detected echoes of the transmitted ultrasound signal comprises reflections from the contrast agent.

73. (Previously Presented) The method of claim 71, further comprising:

detecting echoes of the transmitted ultrasound signal at the fundamental frequency; and

using the detected echoes at both the fundamental frequency and the harmonic frequency to form the three-dimensional image.

74. (Previously Presented) The method of claim 73 wherein the detected echoes at the fundamental frequency are used to form the three-dimensional image alternately with the use of the detected echoes at the harmonic frequency to form the three-dimensional image.

75. (Previously Presented) The method of claim 73 wherein the detected echoes at the fundamental frequency and the detected echoes at the harmonic frequency are used simultaneously to form the three-dimensional image.

76. (Previously Presented) The method of claim 73 wherein the detected echoes at the fundamental frequency are used to form portions of the three-dimensional image that are at a greater depth within the body, and the detected echoes at the harmonic frequency are

used to form portions of the three-dimensional image that are at a shallower depth within the body.

77. (Previously Presented) The method of claim 73 wherein the detected echoes at the fundamental frequency are used to form portions of the three-dimensional image that are at a greater depth within the body, the detected echoes at the harmonic frequency are used to form portions of the three-dimensional image that are at a shallower depth within the body, and both the detected echoes at the fundamental frequency and the detected echoes at the harmonic frequency are used to form portions of the three-dimensional image that are at an intermediate depth within the body.

78. (Previously Presented) The method of claim 71 wherein the act of detecting echoes of the transmitted ultrasound signal comprises detecting echoes from moving tissue or fluid within the body.

79. (Previously Presented) The method of claim 78 wherein the act of using the detected echoes to form a three-dimensional image comprise displaying the three-dimensional image with indicia indicative of the velocity of the moving tissue or fluid.

80. (Previously Presented) The method of claim 78 wherein the act of using the detected echoes to form a three-dimensional image comprise displaying the three-dimensional image with indicia indicative of the intensity of the echoes reflected from the moving tissue or fluid.

81. (Original) The method of claim 71 wherein the act of transmitting an ultrasound signal into the body comprises transmitting an ultrasound signal into the body having a range of frequency components, the range of frequency components including the fundamental frequency.

82. (Previously Presented) A method of producing a three-dimensional ultrasonic image of a tissue or fluid in the body, comprising:

transmitting ultrasonic signals into the body, the transmitted ultrasonic signals having a fundamental frequency component;

receiving ultrasonic echoes from tissue or fluid within the body, the received ultrasonic echoes including a frequency component that is a harmonic of the fundamental frequency component;

storing signals derived from the harmonic frequency component of the received ultrasonic echoes; and

displaying a three-dimensional image of a tissue or fluid in the body from the stored signals.

83. (Previously Presented) the method of claim 82, further comprising, prior to transmitting the ultrasound signal, introducing a contrast agent into the body so that at least some of the ultrasound reflectors from which the ultrasonic echoes are received comprise the contrast agent.

84. (Previously Presented) The method of claim 82 wherein the act of receiving echoes from tissue or fluid within the body comprises receiving echoes from moving tissue or fluid within the body.

85. (Canceled).

86. (Previously Presented) The method of claim 84 wherein the act of displaying a three-dimensional image from the stored signals comprises displaying a three-dimensional image from the stored signals containing information indicative of the velocity of the moving tissue or fluid.

87. (Previously Presented) The method of claim 84 wherein the act of displaying a three-dimensional image from the stored signals comprises displaying a three-

dimensional image from the stored signals containing information indicative of the intensity of the echoes reflected from the moving tissue or fluid.

88. (Original) The method of claim 82 wherein the act of transmitting ultrasonic signals into the body comprises transmitting ultrasonic signals having a range of frequency components, the range of frequency components including the fundamental frequency component.

89. (Previously Presented) A method of producing a three-dimensional ultrasonic image of a tissue or fluid in the body, comprising:

transmitting ultrasonic signals into the body, the transmitted ultrasonic signals having a fundamental frequency component;

receiving ultrasonic echoes from tissue or fluid within the body, the received ultrasonic echoes containing both fundamental and harmonic frequency components;

detecting the fundamental and harmonic frequency components of the ultrasonic echoes;

forming signals that are a blend of the detected fundamental and harmonic frequency components;

storing the formed signals; and

displaying a three-dimensional image of a tissue or fluid in the body from the stored signals.

90. (Previously Presented) The method of claim 89, wherein the forming of signals that are a blend of the detected fundamental and harmonic frequency components comprises forming a blend of the detected fundamental and harmonic frequency components that varies as a function of time.

91. (Previously Presented) The method of claim 89, wherein the forming of signals that are a blend of the detected fundamental and harmonic frequency components

comprises forming a blend of the detected fundamental and harmonic frequency components that varies as a function of the depth of the tissue or fluid from which the reflections are received.

92. (Previously Presented) The method of claim 89, wherein the forming of signals that are a blend of the detected fundamental and harmonic frequency components comprises forming a blend of the detected fundamental and harmonic frequency components that varies as a function of the location of the tissue or fluid from which the reflections are received.

93. (Previously Presented) the method of claim 89, further comprising, prior to transmitting the ultrasound signal, introducing a contrast agent into the body so that at least some of the ultrasound reflectors from which the ultrasonic echoes are received comprise the contrast agent.

94. (Canceled).

95. (Previously Presented) The method of claim 89 wherein the act of receiving echoes from tissue or fluid within the body comprises receiving echoes from moving tissue or fluid within the body.

96. (Previously Presented) The method of claim 95 wherein the act of displaying a three-dimensional image from the stored signals comprises displaying a three-dimensional image from the stored signals containing information indicative of the velocity of the moving tissue or fluid.

97. (Previously Presented) The method of claim 95 wherein the act of displaying a three-dimensional image from the stored signals comprises displaying a three-dimensional image from the stored signals containing information indicative of the intensity of the echoes reflected from the moving tissue or fluid.

98. (Original) The method of claim 89 wherein the act of transmitting ultrasonic signals into the body comprises transmitting ultrasonic signals having a range of frequency components, the range of frequency components including the fundamental frequency component.

99. (Previously Presented) The method of claim 89 wherein the detected fundamental frequency component and the detected harmonic frequency component are alternately used to form the three-dimensional image.

100. (Previously Presented) The method of claim 89 wherein the detected fundamental frequency component and the detected harmonic frequency component are simultaneously used to form the three-dimensional image.

101. (Previously Presented) The method of claim 89 wherein the detected fundamental frequency component is used to form portions of the three-dimensional image that are at a greater depth within the body, and the detected harmonic frequency component is used to form portions of the three-dimensional image that are at a shallower depth within the body.

102. (Previously Presented) The method of claim 89 wherein the detected fundamental frequency component is used to form portions of the three-dimensional image that are at a greater depth within the body, the detected harmonic frequency component is used to form portions of the three-dimensional image that are at a shallower depth within the body, and both the detected fundamental frequency component and the detected harmonic frequency component are used to form portions of the three-dimensional image that are at an intermediate depth within the body.

103. (Original) A method for producing a three dimensional reconstruction with an ultrasound system, the method comprising the steps of:

(a) transmitting ultrasonic energy at a first frequency band into a subject during said imaging session, said subject being free of added ultrasound contrast agent throughout the entire imaging session;

(b) receiving ultrasonic echo information associated with said transmitted ultrasonic energy;

(c) filtering from said echo information a plurality of information signals associated with a second frequency band, said second frequency band comprising at least a harmonic band of said first frequency band; and

(d) forming the three-dimensional reconstruction in response to said information signals.

104. (Original) An ultrasound apparatus adapted for generating a three dimensional reconstruction of a subject during an imaging session, said subject being free of added ultrasound contrast agent throughout the entire imaging session, said apparatus comprising:

a transducer;

a transmit beamformer operatively connected to said transducer for transmitting ultrasonic energy into a subject during said imaging session, said subject being free of added ultrasound contrast agent throughout the entire imaging session;

a receive beamformer operatively connected to said transducer and configured to obtain echo information;

a filter operatively connected to said receive beamformer and operative to filter from said echo information a plurality of information signals associated with a harmonic frequency band, said harmonic frequency band comprising harmonics of a fundamental frequency band transmitted into the subject; and

wherein the three-dimensional reconstruction is responsive to said information signals.

105. (Original) A method for producing a three dimensional reconstruction with an ultrasound system, the method comprising the steps of:

(a) transmitting ultrasonic energy at a first frequency band into a subject during said imaging session, said subject being free of added ultrasound contrast agent throughout the entire imaging session;

(b) receiving ultrasonic echo information associated with said transmitted ultrasonic energy;

(c) obtaining from said echo information a plurality of detected Doppler information signals associated with a second frequency band, said second frequency band comprising at least a harmonic band of said first frequency band;

(d) forming the three-dimensional reconstruction in response to said information signals; and

(e) displaying a Doppler image selected from the group of: velocity, variance, energy and combinations thereof, the Doppler image being responsive to said three dimensional reconstruction.

106. (Original) A method for producing a three dimensional reconstruction with an ultrasound system, the method comprising the steps of:

(a) transmitting ultrasonic energy at a first frequency band into a subject during said imaging session, said subject being free of added ultrasound contrast agent throughout the entire imaging session, said ultrasonic energy characterized by a peak power level near said first frequency band;

(b) receiving ultrasonic echo information associated with said transmitted ultrasonic energy;

(c) obtaining from said echo information a plurality of information signals associated with a second frequency band, said second frequency band comprising at least a harmonic band of said first frequency band, and a second plurality of information signals associated with said first frequency band;

(d) forming the three-dimensional reconstruction in response to said information signals; and

(e) displaying a composite image responsive to said three dimensional reconstruction and representing three dimensions, said composite image comprising spatially

distinct near-field and far-field regions, said far-field region emphasizing information signals in the first frequency band and said near-field region emphasizing information signals in the second frequency band.

107. (Original) A method for producing a three dimensional reconstruction with an ultrasound system, the method comprising the steps of:

(a) transmitting ultrasonic energy at a first frequency band into a subject during said imaging session, said subject being free of added ultrasound contrast agent throughout the entire imaging session;

(b) receiving ultrasonic echo information associated with said transmitted ultrasonic energy;

(c) obtaining from said echo information a first plurality of information signals associated with said first frequency band and a second plurality of information signals associated with a second frequency band, said second frequency band comprising at least a harmonic band of said first frequency band;

(d) compounding the first and second plurality of information signals; and

(e) forming the three-dimensional reconstruction as a function of said compounded information signals.

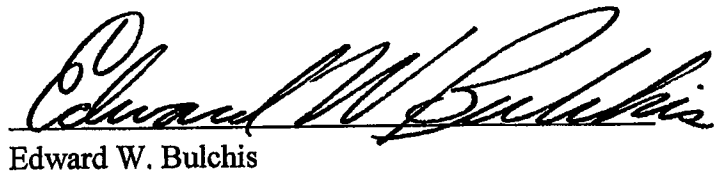
108-157. (Cancelled)

REMARKS

Claims 28- 58, 71-84, 86-93, 95-107 are pending; claims 28-32, 34-58, 71-84, 86-89, 93 and 95-107 have been allowed. The Examiner previously indicated that the remaining claims, namely claims 33 and 90-92, were allowable after a prior amendment. Claims 108-157 were added in an amendment dated February 28, 2007, and have been cancelled in the present amendment. In addition to the cancellation of the claims listed above, the two REQUESTS FOR INTERFERENCE WITH PATENT UNDER 37 CFR 41.202, filed February 28, 2007, are being withdrawn.

Respectfully submitted,

DORSEY & WHITNEY LLP



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Enclosures:
Postcard
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Request for Withdrawal of Interferences

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PATENT

I hereby certify that on the date specified below, this correspondence is being deposited with the United States Postal Service as first-class mail in an envelope addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

June 6, 2007
Date

Phoebe E. Pogson

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.	: 09/617,318	Confirmation No.	: 9061
Applicants	: David N. Roundhill, Michalakis Averkiou and Jeffry E. Powers		
Filed	: July 17, 2000	Attorney Docket No.:	500789.01 (29756/US)
Art Unit	: 3737	Customer No.	: 27, 076
Examiner	: Francis J. Jaworski		
Title	: SYSTEM AND METHOD FOR THREE DIMENSIONAL HARMONIC ULTRASOUND IMAGING		

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REQUEST FOR WITHDRAWAL OF INTERFERENCES

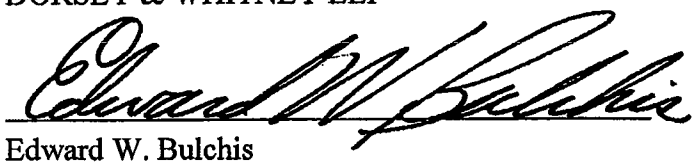
Sir:

Applicants herewith request that the REQUEST FOR INTERFERENCE WITH PATENT UNDER 37 CFR 41.202 with U.S. Patent No. 7,004,905, and the REQUEST FOR INTERFERENCE WITH PATENT UNDER 37 CFR 41.202 with U.S. Application No. 10/920,661, both filed February 28, 2007, be withdrawn.

A Supplemental Amendment canceling claims 108-157, directed to claims corresponding to the above-noted patent and application, is being filed concurrently herewith.

Respectfully submitted,

DORSEY & WHITNEY LLP



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